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EXAMINER

SHECHTMAN, SEAN P

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,028

Applicant(s)

ANDO, HIROYOSHI

Examiner

Sean P. Shechtman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/811,714.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/10/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Claims 41-56 are presented for examination. Claims 11-17, 19, 21, and 23-40 have been cancelled.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

3. This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. The current status of all nonprovisional parent applications referenced should be included.

Information Disclosure Statement

4. The information disclosure statement filed March 10th 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

5. The drawings are objected to because of the following:

Fig. 1, elements 10 and 100 are unclear.

Fig. 6, element 64 and Fig. 7, element 74, the monetary signs are unclear.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. The abstract of the disclosure is objected to because it is not clear what initial cost is being reduced and what accuracy is being maintained. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 41-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in

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the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 41-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original specification fails to provide for and/or enable one skilled in the art to make or use inspection information obtained with regards to security of an apparatus control computer, the running information stored in regards to security of the apparatus control computer, products manufactured in regards to security of an apparatus control computer, products inspected in regards to security of an apparatus control computer, manufacturing apparatus in regards to security of an apparatus control computer, inspection apparatus in regards to security of an apparatus control computer, physical memory medium in regards to security of an apparatus control computer, memory device in regards to security of an apparatus control computer, manufacturing information stored in regards to security of the apparatus control computer, inspection information stored in regards to security of the apparatus control computer, transmitted running information received in regards to security of an apparatus control computer, apparatus control computer transmitting information in regards to security of the apparatus control computer, exclusive server in regards to the security of the apparatus control computer.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 41-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 41-56 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

10. Referring to claims 41-56, it is not clear what is required to be done in regards to security of an apparatus control computer. Is the inspection information obtained with regards to security of an apparatus control computer, is the running information stored in regards to security of the apparatus control computer, are said products manufactured in regards to security of an apparatus control computer, are said products inspected in regards to security of an apparatus control computer, is said manufacturing apparatus in regards to security of an apparatus control computer, is said inspection apparatus in regards to security of an apparatus control computer, is the physical memory medium in regards to security of an apparatus control computer, is a memory device in regards to security of an apparatus control computer, is manufacturing information stored in regards to security of the apparatus control computer, is the inspection information stored in regards to security of the apparatus control computer, is the transmitted running information received in regards to security of an apparatus control computer, is said apparatus control computer transmitting information in regards to security of the apparatus

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control computer, is said exclusive server in regards to the security of the apparatus control computer?

11. Referring to claims 41-56 it is not clear what is required to store user information, – said manufactured products, said inspected products, said manufacturing apparatus, said inspection apparatus, a physical memory medium, an apparatus control computer, an exclusive server?

12. Referring to claim 43, it is not clear what is required to be in regards to security of an apparatus control computer storing user information, - said memory device, a memory medium, transporting easily?

13. Claims 43, 48-50, and 52 recite the limitation "the user information" in the last paragraph. There is insufficient antecedent basis for this limitation in these claims.

14. Referring to claim 43, it is not clear what is required to store the user information, - said memory device, a memory medium, an apparatus control computer?

15. Referring to claim 48, it is not clear what information is required to be difficult, - the manufacturing information or the inspection information?

16. Claims 48-49 recite the limitation "the apparatus control computer" in the last paragraph. There is insufficient antecedent basis for these limitations in the claims.

17. Claim 49 recites the limitation "the running information" in the last paragraph. There is insufficient antecedent basis for this limitation in the claim.

18. Referring to claim 50, it is not clear what is required to store manufacturing or inspection information, - the read device or the physical memory medium?

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19. Claim 54 requires the limitation of "said computer", but claim 52, from which claim 54 depends, requires a computer and an apparatus control computer. Therefore, the examiner respectfully submits that it is not clear which computer is said computer.

20. Claim 54 recites the limitation a charge for use of an apparatus calculated from "the above information". It is not clear what information is considered the above information. The examiner respectfully requests that applicant designate what information is considered "the above information".

21. Regarding claim 56, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

22. The term "easily" in claim 43 is a relative term which renders the claim indefinite. The term "easily" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specific requirements of the transport have been rendered indefinite by the use of the term easily.

23. The term "difficulty" in claims 48-51 is a relative term which renders the claim indefinite. The term "difficulty" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The information used to set the charge for use has been rendered indefinite by the use of the term difficulty.

24. Referring to claims 41-56, claims in which both an apparatus and the method steps of using the apparatus is indefinite under 35 USC 112, second paragraph. This type of claim is

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indefinite because it fails to positively recite the boundaries sought for protection. The metes and bounds of the claim cannot be determined because it is unclear as to which category of subject matter is sought for protection, i.e., the method or the apparatus.

25. Examiner further invites the applicant's attention to The MPEP 2173.05(a), which clearly states, in part:

"The meaning of every term used in a claim should be apparent from the prior art or from the specification and drawings at the time the application is filed. Applicants need not confine themselves to the terminology used in the prior art, but are required to make clear and precise the terms that are used to define the invention whereby the metes and bounds of the claimed invention can be ascertained."

26. Due to the number of 35 USC § 112 rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejections, however, the list of rejections may not be all inclusive. Applicant should refer to these rejections as examples of deficiencies and should make all the necessary corrections to eliminate the 35 USC § 112 problems and place the claims in proper format.

27. Due to the vagueness and a lack of clear definition of the terminology and phrases used in the specification and claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

28. Claim 49 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,014,208 to Wolfson.

Referring to claim 49, Wolfson teaches a manufacturing/inspection apparatus for manufacturing/inspecting a semiconductor device, comprising: a memory device for storing manufacturing/inspection difficulty information of said semiconductor device inspected with said inspection apparatus in a physical memory medium (Col. 15, lines 10-50) in regards to security of the apparatus control computer storing the user information (Col. 8, lines 23-25; Col. 10, line 55 – Col. 11, line 2); and a transmitting unit for transmitting the running information of said manufacturing/inspection apparatus (Col. 8, lines 26-35). The claim, as such, does not require that the difficulty information be difficulty of service. The claims and specification, as such, do not require ascertaining a level or degree of difficulty. The claim, as such, does not require any functional relationship between the transmitting unit and the manufacturing/inspection apparatus. The claim, as such, does not require security from any specific threat, or any type of security apparatus/means or barrier to be implemented. The claim, as such, does not require transmitting the running information from anywhere or to anywhere.

29. Claims 43-45, and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,385,497 to Ogushi.

Referring to claim 49, Ogushi teaches a manufacturing/inspection apparatus for manufacturing/inspecting a semiconductor device, comprising: a memory device for storing manufacturing/inspection difficulty information of said semiconductor device inspected with

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said inspection apparatus in a physical memory medium (Col. 3, lines 51-54; Col. 3, lines 2-3; Col. 4, lines 33-47) in regards to security of the apparatus control computer storing the user information (Fig. 6; Col. 6, lines 15-59); and a transmitting unit for transmitting the running information of said manufacturing/inspection apparatus (Co. 3, lines 46-54). The claim, as such, does not require that the difficulty information be difficulty of service. The claim, as such, does not require any functional relationship between the transmitting unit and the manufacturing/inspection apparatus. The claim, as such, does not require security from any specific threat, or any type of security apparatus/means or barrier to be implemented.

Referring to claim 43, Ogushi teaches a manufacturing/inspection apparatus for manufacturing or inspecting a semiconductor device product, said apparatus comprising: a memory device for storing running information indicating running conditions of said manufacturing/inspection apparatus (Col. 3, lines 38-39), wherein said memory device is a memory medium that can be transported easily in regards to security of an apparatus control computer storing the user information (Col. 6, lines 28-59). The examiner respectfully submits that pieces of process information do not require all pieces of process information, and therefore, the claim limitations are believed to be met. The examiner respectfully asserts that a computer can be transported easily.

Referring to claim 44, Ogushi teaches the manufacturing/inspection apparatus according to claim 43, further comprising a transmitting unit provided to read and transmit the information stored in said memory device (Col. 6, lines 28-59). Referring to claim 45, Ogushi teaches the manufacturing/inspection apparatus according to claim 44, wherein said transmitting unit is connected to a wide area communication network (Col. 5, lines 47-54).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. Claims 41-42, 48, and 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,131,052 to Ban in view of U.S. Pat. No. 6,385,497 to Ogushi.

Referring to claims 41-42, Ban teaches a service method for use with a manufacturing/inspecting apparatus for manufacturing a semiconductor device product, comprising: inspection information of said products manufactured/inspected with said manufacturing/inspecting apparatus is obtained via a physical memory medium or an information communication network (Col. 3, lines 31-33; Col. 3, lines 22-23; Col. 2, lines 65-66), operating conditions of said manufacturing/inspecting apparatus are controlled based on said inspection information (Col. 4, lines 10-21; Col. 9, lines 5-22), running information of said manufacturing/inspecting apparatus is obtained via the information communication network (Col. 6, lines 3-7; Col. 8, lines 38-50), and the charge for use of said manufacturing/inspecting apparatus is determined based on said running information and inspection information (Col. 10, lines 32-35, 48-63, and 9-13).

Referring to claim 48, Ban teaches the charge for use of a semiconductor device manufacturing/inspection apparatus is set based on a memory device for storing manufacturing/inspection difficulty information and running information (Col. 3, lines 31-44, and lines 21-23; Col. 10, lines 49-50; Col. 10, lines 58-63; Col. 7, lines 39-43 and 2-4; Col. 6,

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lines 3-7; Col. 8, lines 38-50; Col. 11, lines 47-49), wherein a transmitting unit is provided to transmit the information stored in said memory device (Col. 3, lines 31-37; Col. 6, line 9), wherein said transmitting unit is connected to a wide area communication network (Col. 6, lines 12-13).

Referring to claims 50-51, Ban teaches said service system further comprises a read device for reading data of a physical memory medium storing the manufacturing or inspection difficulty information of said product manufactured or inspected with said manufacturing/inspection apparatus (Col. 6, lines 7-17), a receiving unit for receiving the transmitted running information of said manufacturing/inspection apparatus and an arithmetic device for setting the charge for use of said manufacturing/inspection apparatus based on said data of said physical memory medium and said running information (Col. 6, line 17; Col. 9, lines 5-22; Col. 10, line 57). Further comprising a transmitting unit or transmitting a charge preset by said arithmetic device (Col. 6, lines 7-17).

Referring to claims 52, Ban teaches a service system, comprising an apparatus control computer of a semiconductor device manufacturing/inspection apparatus (Abstract; Col. 1, lines 10, and 58-59; Col. 2, lines 42-46) for collecting running information (see list below), also comprising a computer having a function (Col. 10, line 57) to calculate the charge for use of an apparatus for manufacturing semiconductor wafers and semiconductor devices based on apparatus running information (Col. 8, lines 39-50), said control computer further comprising a database for receiving via a communication network and storing said collected apparatus running information, product grade information and apparatus condition information (Col. 6, lines 3-19; Col. 3, lines 21-44), said service system further comprising a computer for calculating the charge

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for use of said manufacturing/inspection apparatus based on the information stored in said database (Col. 6, line 17; Col. 9, lines 5-22; Col. 10, lines 32-35, 48-63, and 9-13), said service system further comprising a computer for extracting maintenance (Col. 3, lines 21-30) and tuning work (Col. 4, lines 10-20) required for said manufacturing/inspection apparatus based on the information stored in said database, said service system further comprising a computer for analyzing discrepancy factors of said manufacturing/inspection apparatus based on the information stored in said database (Col. 3, lines 55-65). Referring to claim 53, Ban teaches a storage medium is provided to each lot (Col. 3, lines 31-44) directly attached to a cassette (Col. 5, lines 15-17).

Ban does teach a calculation for the charge for use of the apparatus in Col. 10, lines 8-63. Ban teaches determining whether or not the wafers or lot deserves to be completed in terms of the cost (i.e., calculation of cost). Ban goes on to teach a mathematical expression (i.e., calculation) for making this determination in terms of cost in Col. 10, lines 40-57. Examiner respectfully submits that the sum of the costs for each step " C_p " times the yield " Y_n " at the end of the n th step times the number of chips per wafer " N ", is a charge for use of the apparatus. Ban does teach an external communication network in Col. 6, lines 12-13. Ban teaches the computer is connected to a network. Furthermore, Ban teaches a host computer serving information outside (i.e., external) of the storage equipment (Col. 8, lines 39-50; Fig. 6 and 7) through the network (col. 9, lines 14-15).

Referring to claims 41-42, 48, and 50-53, Ban teaches all of the limitations set forth above, however, Ban fails to teach security of an apparatus control computer. Furthermore, Ban fails to teach that control computer is connected to the communications network via a server.

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However, Ogushi teaches analogous art in a semiconductor manufacturing apparatus (Col. 1, lines 8-15; Fig. 8; Col. 2, lines 59-68; Col. 3, lines 1-3 of '497), wherein the network is securely connected to the internet (Col. 3, lines 30-34 of '497) via a server (Col. 3, lines 15-29 of '497).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the internet connection means via a server of Ogushi with the system of Ban. One of ordinary skill in the art would have been motivated to combine these references because Ogushi teaches the ability to: immediately and efficiently perform maintenance of industrial equipments installed at remote locations; monitor an operating state of one or a plurality of industrial equipments, and manage maintenance of the industrial equipment while communicating information associated with maintenance of the industrial equipment with the monitor means through the internet; detect occurrence of trouble of the equipment; and perform centralized maintenance (Col. 1, lines 31-68, and Col. 2, lines 1-6 of '497).

31. Claims 41-42, 48, and 50-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,249,776 to Bajuk in view of U.S. Pat. No. 6,385,497 to Ogushi.

Referring to claims 41-42, 48, and 50-56, Bajuk discloses a service method of using a manufacturing apparatus for manufacturing/inspecting semiconductor devices (Fig. 5; Col. 1, lines 48-67; Col. 3, lines 18-23) wherein inspection information of said products

manufactured/inspected with said manufacturing/inspecting apparatus is obtained via a physical memory medium or an information communication network (Col. 12, lines 33-56; Col. 7, lines 15-33 and lines 53-60), operating conditions of said manufacturing/inspecting apparatus are

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controlled based on said inspection information (Col. 7, lines 39-46), running information of said manufacturing/inspecting apparatus is obtained via the information communication network (Col. 12, lines 53-55), and the charge for use of said manufacturing/inspecting apparatus is determined based on said running information and inspection information (Abstract; Col. 7, lines 56-60; Col. 9, lines 49-52), wherein the charge for use of a semiconductor wafer and semiconductor device manufacturing/inspection apparatus is set based on manufacturing/inspection difficulty information of the following: a) Process information indicating the quantity of manufactured or inspected products (Col. 2, lines 29-33), b) Accuracy information indicating the manufacturing or inspection accuracy of said products (Col. 11, line 56 - Col. 12, lines 9), c) Running information indicating the running conditions of said manufacturing/inspection apparatus (Col. 2, lines 20-28) and d) Calibration information indicating a calibration value required for apparatus running control (Col. 7, lines 47-52), wherein any of the at least any information is stored in a memory device at the time of manufacture or inspection of said manufacturing/inspection apparatus, wherein a transmitting unit or transmitting a charge preset by an arithmetic device is provided to transmit the information stored in said memory device, wherein said transmitting unit is connected to a wide area communication network (Col. 12, lines 39-43; Col. 12, lines 49-56), wherein said service system further comprises a read device for reading data of a physical memory medium storing the manufacturing or inspection difficulty information of said product manufactured or inspected with said manufacturing/inspection apparatus, a receiving unit for receiving the transmitted running information of said manufacturing/inspection apparatus and an arithmetic device for setting the charge for use of said manufacturing/inspection apparatus based on said data of said

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physical memory medium and said running information (Col. 12, lines 33-56), further comprising an apparatus control computer of a semiconductor wafer and semiconductor device manufacturing/inspection apparatus (Fig. 5; Col. 1, lines 48-67; Col. 3, lines 18-23) for collecting the following information, also comprising a computer having a function to calculate the charge for use of an apparatus for manufacturing semiconductor wafers and semiconductor devices based (Fig. 5; Col. 1, lines 48-67; Col. 3, lines 18-23; Col. 6, lines 56-63) the following information: a) Apparatus running information including the number of sheets processed (Fig. 1D; Col. 4, line 38), b) Product grade information (Fig. 1D; Col. 6, lines 29-55; Col. 7, lines 47-52), c) Apparatus condition information (Fig. 1D; Col. 6, lines 29-55; Col. 7, lines 47-52), said control computer further comprising a database for receiving via a communication network and storing said collected apparatus running information, product grade information and apparatus condition information (Col. 6, lines 66-67), said service system further comprising a computer for calculating the charge for use of said manufacturing/inspection apparatus based on the information stored in said database (Col. 6, lines 56-67; Col. 12, lines 39-43), said service system further comprising a computer for extracting maintenance (Col. 4, lines 9-15) and tuning work (Col. 11, lines 6-10) required for said manufacturing/inspection apparatus based on the information stored in said database, said service system further comprising a computer for analyzing discrepancy factors of said manufacturing/inspection apparatus based on the information stored in said database (Col. 10, lines 48-55), wherein a GUI display connected to said computer includes the information pieces of at least (Figs. 1D, 2A, and 2B; Col. 6, lines 64-67), (1) number of sheets of wafer or mask to be processed; (2) total number of shots per wafer or mask; (3) class of product grade specified with size accuracy, position accuracy and alignment

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accuracy; (4) apparatus condition information defined with various residues of calibration and compensation; and (5) display of charge for use of apparatus calculated from the above information or notification of permission for use of an apparatus, (6) accumulated use time of limited-life part, (7) accuracy items of which deterioration is recognized with the calibration history, (8) generated error record and recovery condition, (9) exchange timing of the limited-life part estimated from the accumulated use time information of limited-life part, (10) adjustment and calibration means for the control items of which deterioration is recognized, and (11) apparatus discrepancy portion estimated from such error information, (12) accuracy deteriorated portion estimated from the calibration history, and (6) adjustment requiring portion and adjusting method estimated from the above information pieces, wherein a representative hardware environment for the invention includes peripheral devices such as disk units (Col. 12, lines 43-56). Examiner respectfully asserts that it is well known that such disk units can be easily transported.

Bajuk also teaches a calculation for the charge for use of the apparatus in the abstract, Col. 7, lines 27-68, Col. 8, lines 1-20, and Col. 11, lines 11-21. Bajuk teaches an invention that "results in more accurate costing of the entire semiconductor processing sequence" (Col. 7, lines 56-60). Bajuk even goes on to teach a calculated "cost per wafer", for example \$8.01 (Col. 8, lines 8-10). Examiner respectfully submits that this cost (among others such as cost per step or operation also discussed in Col. 7, lines 60-68) is a cost or charge for using the apparatus, for example, on a per wafer basis.

Referring to claims 41-42, 48, and 50-56, Bajuk teaches all of the limitations set forth above, however, Bajuk fails to teach that the apparatus control computer is connected to the

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communications network via a server and Bajuk fails to teach security of an apparatus control computer.

However, Ogushi teaches analogous art in a semiconductor manufacturing apparatus (Col. 1, lines 8-15; Fig. 8; Col. 2, lines 59-68; Col. 3, lines 1-3 of '497), wherein the network is securely connected to the internet (Col. 3, lines 30-34 of '497) via a server (Col. 3, lines 15-29 of '497). Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the server of Ogushi with the system of Bajuk. One of ordinary skill in the art would have been motivated to combine these references because Ogushi teaches the ability to: immediately and efficiently perform maintenance of industrial equipments installed at remote locations; monitor an operating state of one or a plurality of industrial equipments, and manage maintenance of the industrial equipment while communicating information associated with maintenance of the industrial equipment with the monitor means through the internet; detect occurrence of trouble of the equipment; and perform centralized maintenance (Col. 1, lines 31-68, and Col. 2, lines 1-6 of '497).

32. Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,385,497 to Ogushi in view of U.S. Patent No. 6,249,776 to Bajuk or U.S. Patent No. 6,131,052 to Ban.

Referring to claims 46-47, Ogushi teaches all the limitations set forth above, however,

Ogushi fails to teach the manufacturing/inspection apparatus above, wherein a charge for use of said manufacturing/inspection apparatus is set based on the information transmitted by said transmitting unit or stored in said memory device.

However, referring to claims 46-47, Ban teaches analogous art, wherein a charge for use of a manufacturing/inspection apparatus is set based on the information transmitted by a transmitting unit or stored in a memory device, such as, a) Process information (Col. 3, lines 31-44, and lines 21-23) indicating the quantity of manufactured or inspected products (Col. 10, lines 49-50; Col. 10, lines 58-63), b) Accuracy information indicating the manufacturing or inspection accuracy of said products (Col. 7, lines 39-43 and 2-4), c) Running information indicating the running conditions of said manufacturing/inspection apparatus (Col. 6, lines 3-7; Col. 8, lines 38-50) and d) Calibration information indicating a calibration value required for apparatus running control (Col. 11, lines 47-49).

However, referring to claims 46-47, Bajuk teaches analogous art, wherein a charge for use of a manufacturing/inspection apparatus is set based on the information transmitted by a transmitting unit or stored in a memory device, such as, a) Process information indicating the quantity of manufactured or inspected products (Col. 2, lines 29-33), b) Accuracy information indicating the manufacturing or inspection accuracy of said products (Col. 11, line 56 - Col. 12, lines 9), c) Running information indicating the running conditions of said manufacturing/inspection apparatus (Col. 2, lines 20-28) and d) Calibration information indicating a calibration value required for apparatus running control (Col. 7, lines 47-52),

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Ban or Bajuk with the teachings of Ogushi.

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One of ordinary skill in the art would have been motivated to combine these references because Ban teaches a semiconductor manufacturing system that reduces time required to manufacture semiconductors with effective use of waiting time (abstract). Furthermore, Ban teaches yield calculations that can determine lots having low yield to be interrupted to reduce unnecessary manufacturing thereby achieving improvement in manufacturing efficiency (Col. 4, lines 1-9).

One of ordinary skill in the art would have been motivated to combine these references because Bajuk teaches a methodology for properly weighting the cost of semiconductor products (title) by casually relating costs relating to a wafer comprising resource costs, equipment costs and load factors (Abstract) wherein the process of identifying costs includes determining optional costs and verifying the weighted cost per wafer (Col. 2, lines 1-41).

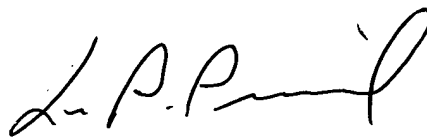
Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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SPS

Sean P. Shechtman

October 15, 2004

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